



**Poster
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Assessment of neuroprotective potential of Tualang honey in Alzheimer Model of rats.



Anil Kumar Saxena, Hnin P. Phyu, Norlelewati A. Talib, Imad M. Al-Ani
Department of Basic Medical Sciences, Kulliyah of Medicine, International Islamic University Malaysia. Phone: 019-9742950, Fax: 09-5716784, E-mail: drak.saxena@gmail.com

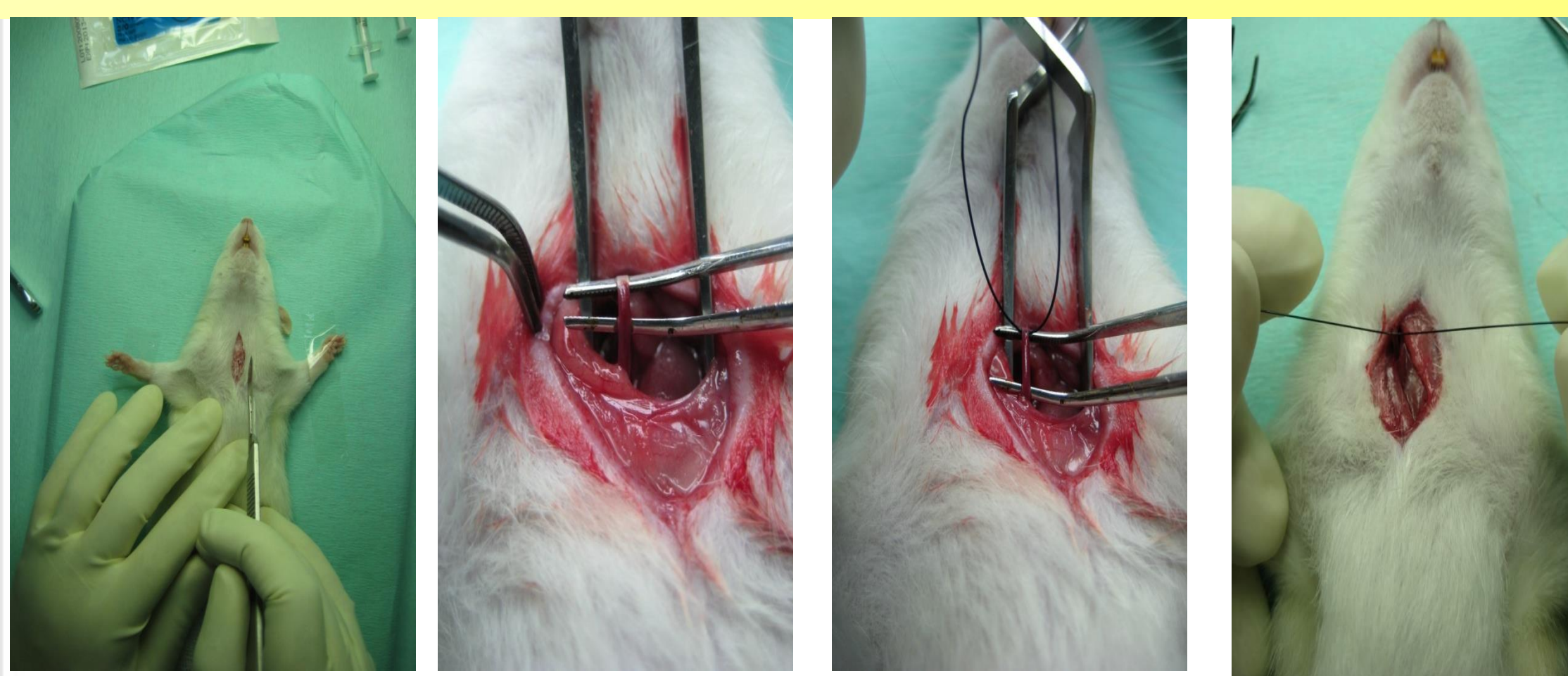
INTRODUCTION

- Reduction in cerebral blood flow (CBF) due to aging has been associated with neurodegenerative disorders including Alzheimer's disease and dementia.
- Experimentally, a condition of chronic cerebral hypoperfusion due to reduced CBF can be induced by permanent bilateral occlusion of common carotid arteries (2-vessel occlusion, 2VO) in rats.
- Honey is a natural product that has been widely used since long time as a nutrient, for its therapeutic effects in traditional medicine, and recently as an antioxidant.
- Oxidative stress leading to neuroinflammation resulting in neuronal apoptosis and death, is one of the mechanisms which is thought to play a significant role in chronic degenerative neurological disorders.

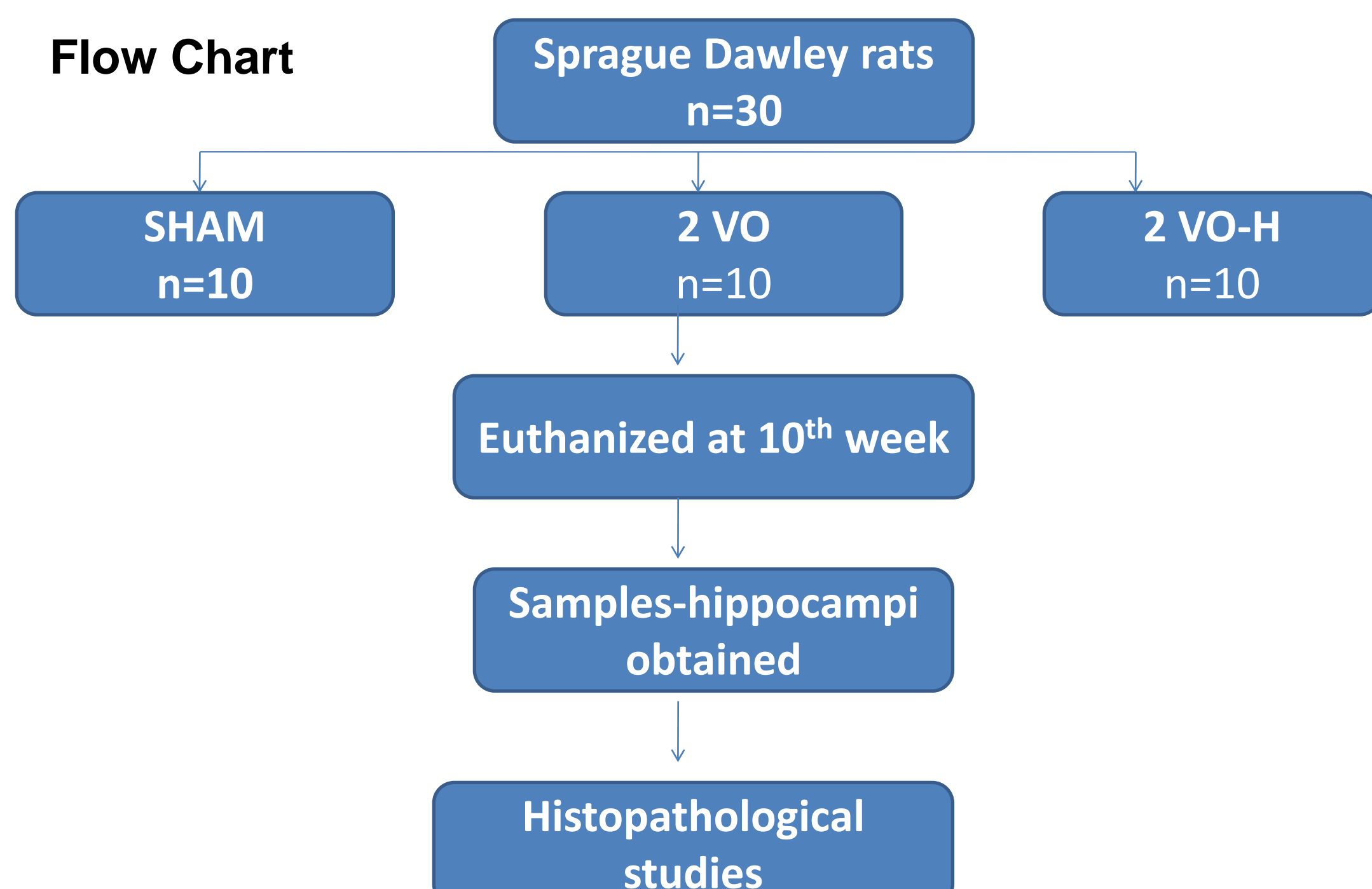
MATERIALS AND METHODS



- This study was conducted on male Sprague Dawley rats, weighing 200-250 grams.
- They were treated in accordance to the Guidelines for The Animal Care and Use Committee, Ministry of Health Malaysia.
- The rats were provided with standard food and water ad libitum.

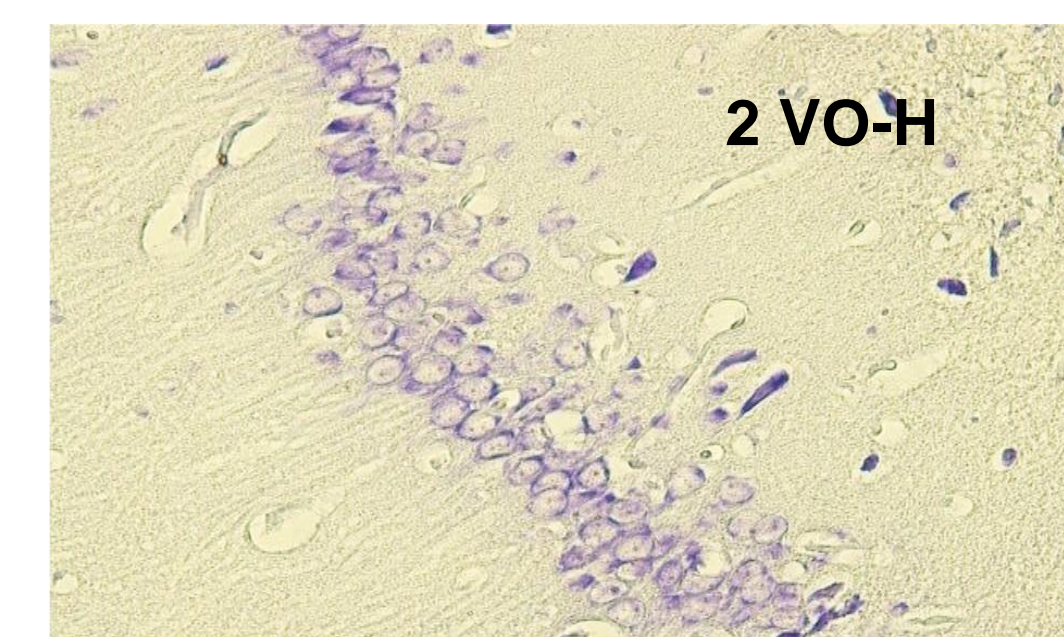
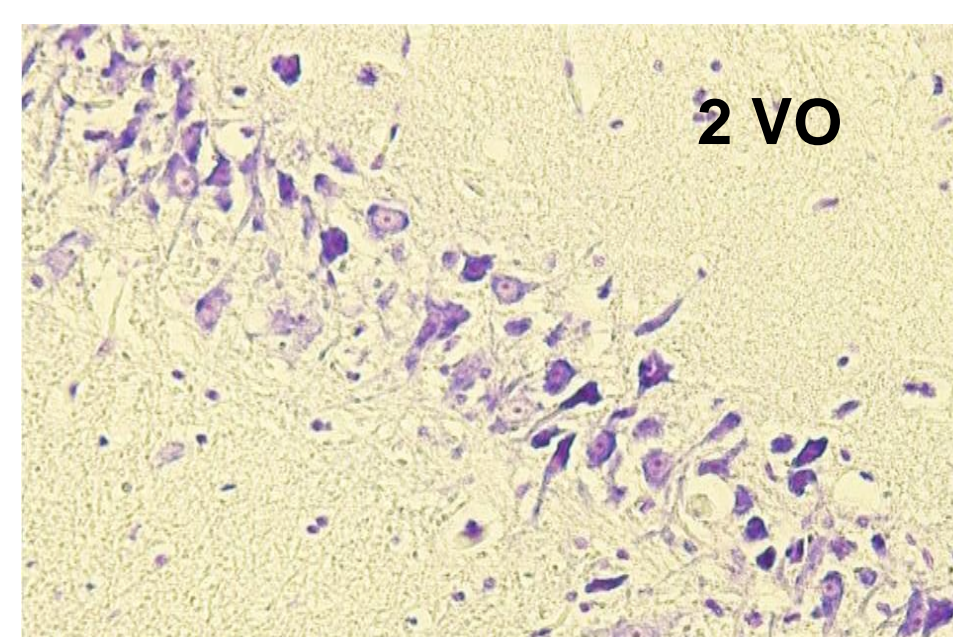
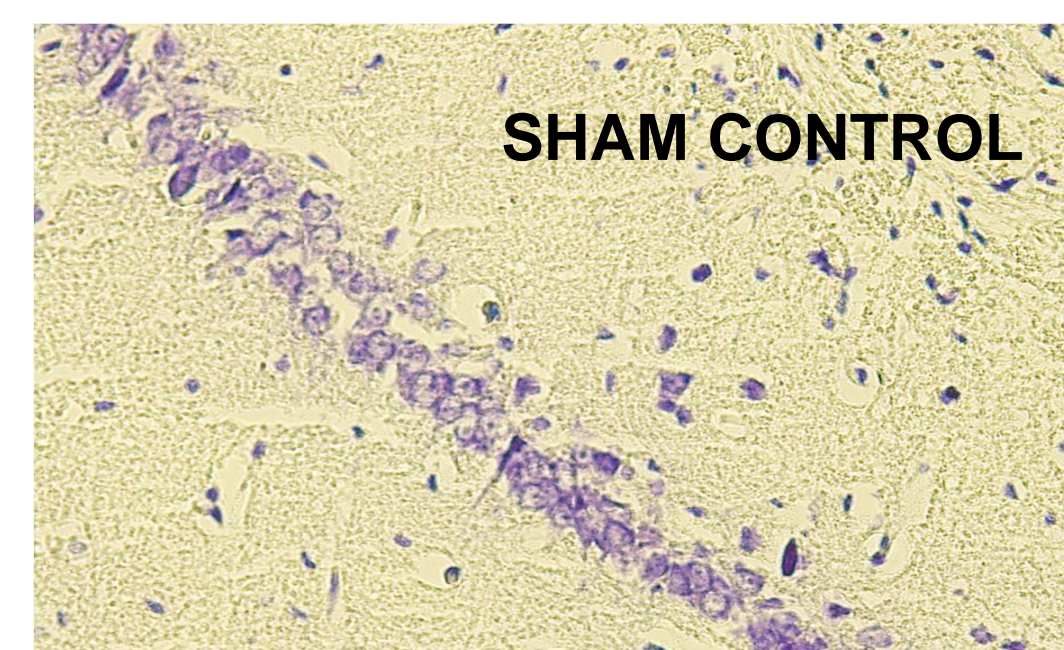
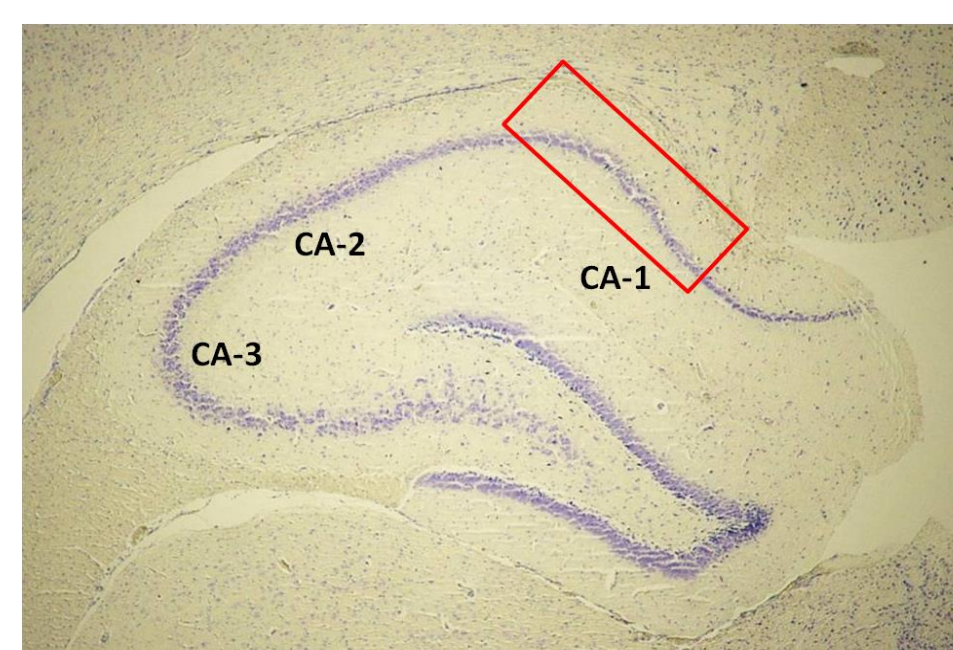


Flow Chart



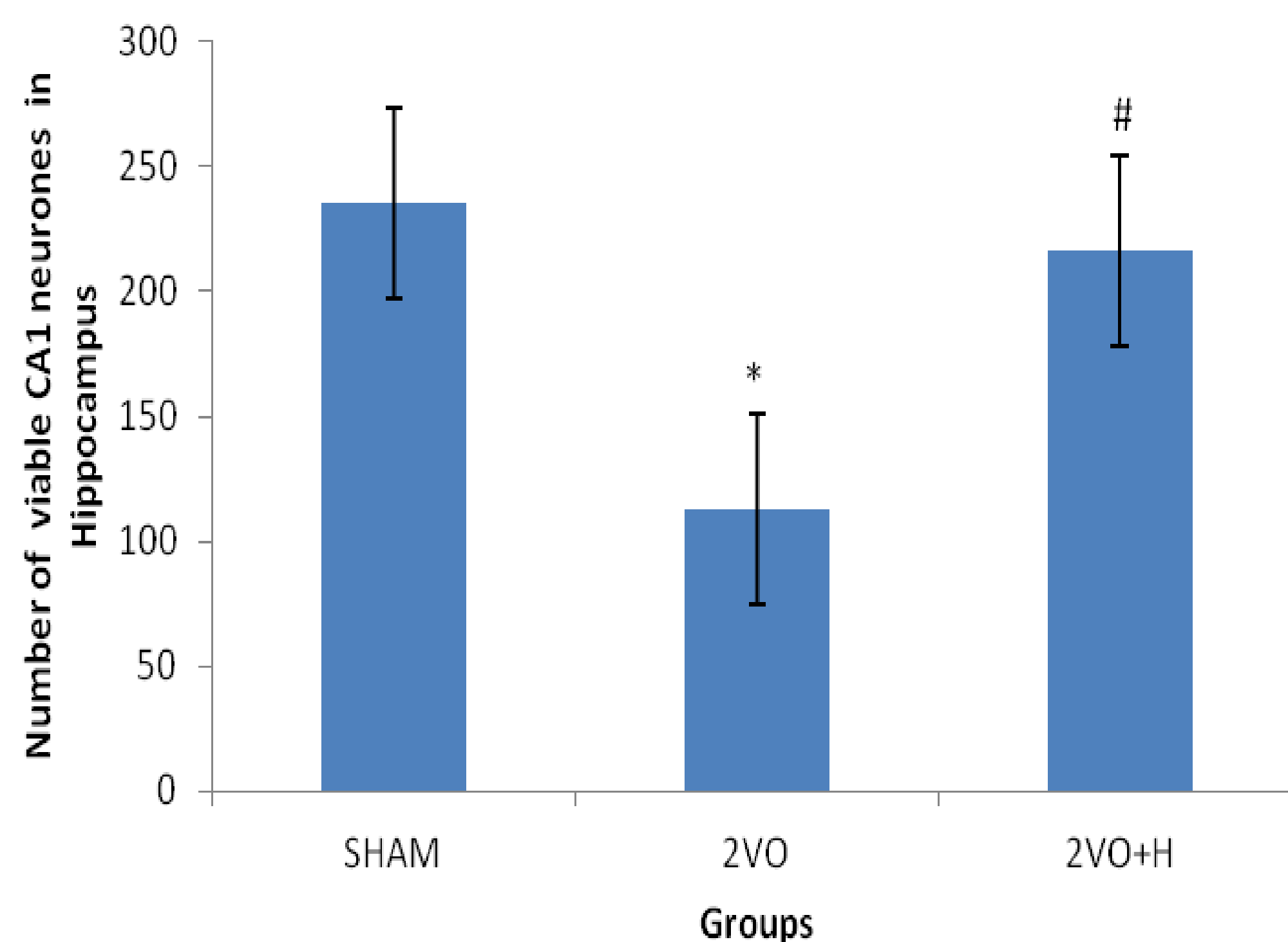
RESULTS

Histopathological studies



Light microscopic images of hippocampal CA-1 region for SHAM, 2VO and 2VO-C groups

Hippocampal CA-1 Neuronal Cell Number



Number of hippocampal CA-1 neuronal cells in SHAM, 2VO and 2VO+H groups. Data represent the mean ± SEM [*p<0.001 (SHAM vs 2VO); # p<0.001 (2VO vs 2VO+H) pos hoc (Tukey)]

DISCUSSION: The present study revealed that chronic cerebral hypoperfusion-induced neurodegeneration by 2VO increases neuronal cell death in the hippocampus.

In Honey-treated 2VO (2VO-H) rats, the viable neuronal cell count of the hippocampal CA-1 region was significantly higher as compared to the untreated 2VO group.

Conclusion: These results clearly indicate that Honey is an effective neuroprotective agent in chronic cerebral hypoperfusion-induced neurodegeneration in rats and can be fruitfully utilized in the management of Alzheimer's disease.

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